

(19)



Europäisches Patentamt

European Patent Office

Office européen des brevets



(11)

EP 1 142 483 A1

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:

10.10.2001 Bulletin 2001/41

(51) Int Cl.7: **A23F 5/14**

(21) Application number: **01201251.4**

(22) Date of filing: **05.04.2001**

(84) Designated Contracting States:

**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE TR**

Designated Extension States:

AL LT LV MK RO SI

(30) Priority: **06.04.2000 NL 1014852**

(71) Applicant: **Sara Lee/DE N.V.**

3532 AA Utrecht (NL)

(72) Inventor: **Groen, Hendrik Johannes**

1273 XC Huizen (NL)

(74) Representative: **Prins, Adrianus Willem et al
Vereenigde,**

Nieuwe Parklaan 97

2587 BN Den Haag (NL)

(54) **Coffee package**

(57) The present invention relates to a package containing roasted, ground coffee and at least one absorbent for coffee oil, which absorbent is not water-soluble, and to a method for preparing a portion of liquid coffee with a reduced content of coffee oil, comprising dosing

a dose of ground, roasted coffee to a brewing system in which no filtering paper or filtering cloth is used, preparing the coffee by extraction with hot water, the improvement consisting in the dose of coffee containing an amount of absorbent for coffee oil which is effective for reducing the content of coffee oil in the prepared coffee.

EP 1 142 483 A1

Description

[0001] The present invention relates to the preparation of coffee and more in particular to the preparation of coffee in a manner whereby the content of coffee oil in the end product is reduced.

[0002] It is known that coffee oil is present in coffee. When making coffee by contacting hot water with coffee, a part of this coffee oil is also extracted and ends up in the eventual coffee. There is a need to reduce the content of coffee oil in the extract, inter alia for esthetic reasons. Further, it is known that many factors have an influence on the content of coffee oil, inter alia the specific composition of the coffee mixture and the time and intensity of roasting. U.S. Patent 4,859,348 relates to a filtering device suitable for removing the coffee oil during coffee brewing. According to this patent, a special woven is used for retaining the coffee oil, so that it does not end up in the brew.

[0003] U.S. Patent 5,496,573 also relates to the use of a special coffee filtering material, which involves a nonwoven having special properties.

[0004] Although in this manner coffee oil can be separated so that it does not end up in the brew, these solutions require the application of a coffee filter. For use in apparatuses in which no filtering paper is used, for instance in coffee machines for use in offices; canteens and the like, this is not possible. In this type of apparatus, use is often made of a stainless steel filter which is wiped clean after use. In this type of apparatus, the proposed solutions are therefore not usable.

[0005] Therefore, there is a need for an alternative manner for removing coffee oil, which is suitable for use in filtering-paperless coffee machines. Surprisingly, it has been found that, in a very simple manner, it is possible to prevent the coffee oil from ending up in the brew, or to reduce the proportion of the coffee oil ending up in the brew. In fact, it has been found that when an absorbent for coffee oil is mixed with the roasted and ground coffee, and subsequently, from this mixture, a brew is prepared, the content of coffee oil is clearly reduced. Therefore, in a first embodiment, the invention relates to a package containing roasted, ground coffee and at least one absorbent for coffee oil, which absorbent oil is not water-soluble.

[0006] When, therefore, a brew is prepared from the mixture from this package according to the invention, a clear reduction of the content of coffee oil occurs.

[0007] As an absorbent, a multitude of materials are eligible. Firstly, it is preferred that the absorbent is hydrophobic, i.e. lipophilic. Then, on the one hand, a preferential absorption of coffee oil occurs, while, on the other hand, the hydrophilic odour and flavour components have a lesser tendency to be absorbed. Suitable absorbents are, for instance, filtering paper, modified or unmodified zeolites, clay materials, diatomaceous earth, melt blown PP, cellulose fibre, cotton fibre, glass wool and mineral wool. It is essential for the absorbent

not to be water-soluble.

[0008] It is noted that the action of the absorbent is not entirely clear. It is possible that the coffee oil is absorbed into the absorbent, but it can also be that it adheres to the surface.

[0009] Preferably, the absorbent is finely divided, so it can easily be mixed with the ground coffee and does not segregate too strongly during brewing. In case a particulate absorbent is used, it is therefore preferred that the grain size is comparable to the grain size of the ground coffee. When using filtering paper or like materials, this requirement is not so stringent, but it is preferred that the paper is reasonably finely shredded.

[0010] Surprisingly, it has further appeared that the use of absorbents which also absorb water, such as filtering paper, has the advantage that the coffee grounds which are left after extraction show a better removability. If so desired, combinations of absorbents can also be used, such as diatomaceous earth and filtering paper.

[0011] As already indicated, the invention has, in particular, advantages when used in filtering-paperless brewing systems. Therefore, the invention also relates to a method for preparing a portion of liquid coffee with a reduced content of coffee oil, comprising dosing a dose of ground, roasted coffee to a brewing system in which no filtering paper or filtering cloth is used, preparing the coffee by extraction with hot water, the improvement consisting in the dose of coffee containing an amount of absorbent for coffee oil, which amount is effective for reducing the content of coffee oil in the prepared coffee.

[0012] The invention is presently elucidated in and by a few examples, without being limited thereto.

Examples

Example 1 (comparative)

[0013] In a coffee machine, coffee is prepared from 52 grams of coffee with 1 litre of hot water at an excess pressure of 1.5 bars.

[0014] In the captured brew with a dry matter content of 1.5% by weight, approximately 400 mg/l coffee oil is present.

Example 2

[0015] Example 1 is repeated, with the coffee additionally containing 8 grams of shredded filtering paper.

[0016] In the captured brew with a dry matter content of 1.5% by weight, approximately 300 mg/l coffee oil is present.

Example 3

[0017] Example 1 is repeated, with the coffee additionally containing 8 grams of Celite (diatomaceous earth).

[0018] In the captured brew with a dry matter content of 1.5% by weight, approximately 200 mg/l coffee oil is present.

5

Claims

1. A package containing roasted, ground coffee and at least one absorbent for coffee oil, which absorbent is not water-soluble. 10
2. A package according to claim 1, wherein the absorbent is a lipophilic material.
3. A package according to claim 2, wherein the absorbent is selected from the group consisting of filtering paper, modified or unmodified zeolites, clay materials, diatomaceous earth, melt blown PP, cellulose fibre, cotton fibre, glass wool and rock wool. 15
20
4. A package according to claim 3, wherein the absorbent is finely divided filtering paper.
5. A package according to claims 1 - 4, wherein the coffee is suitable for use in filtering paper-free and filtering cloth-free brewing systems. 25
6. A package according to claims 1 - 5, wherein the coffee is destined for use in filtering paper-free and filtering cloth-free brewing systems. 30
7. A method for preparing a portion of liquid coffee with a reduced content of coffee oil, comprising dosing a dose of ground, roasted coffee to a brewing system in which no filtering paper or filtering-cloth is used, preparing the coffee by extraction with hot water, the improvement consisting in the dose of coffee containing an amount of absorbent for coffee oil, which amount is effective for reducing the content of coffee oil in the prepared coffee. 35
40
8. A method for preparing a portion of liquid coffee with a reduced content of coffee oil, wherein the coffee is prepared by using the coffee from a package according to claims 1 - 6. 45
9. A method for preparing a portion of liquid coffee with a reduced content of coffee oil, wherein the coffee is prepared by using a combination of roasted, ground coffee and at least one absorbent for coffee oil, which absorbent is not water-soluble. 50
10. The use of a non-water-soluble absorbent for coffee oil in a mixture with ground and roasted coffee for reducing the content of coffee oil in a coffee brew. 55



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 01 20 1251

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
D,X A	US 5 496 573 A (TSUJI HIROSHI ET AL) 5 March 1996 (1996-03-05) * column 2, line 30 - column 3, line 21 * * column 8, line 34 - column 10, line 27 * * column 10, line 45 - line 67 * * figures 4,5 * ----	1,2,5,6, 8,9 3	A23F5/14
X A	DD 268 151 A (G. HANTSCHE) 24 May 1989 (1989-05-24) * page 2, line 27 - page 3, line 29 * ----	1-3,5-9 4,10	
X A	US 3 625 703 A (ERICSON JOHN A) 7 December 1971 (1971-12-07) * the whole document * ----	7 1,4,8-10	
D,X	US 4 859 348 A (JUSAITIS WALTER ET AL) 22 August 1989 (1989-08-22) * page 2, line 33 - line 25 * * claim 8 * ----	9	
X	US 5 906 743 A (JAMESON LEE KIRBY ET AL) 25 May 1999 (1999-05-25) * column 1, line 51 - line 64 * -----	9	TECHNICAL FIELDS SEARCHED (Int.Cl.7) A23F
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 31 May 2001	Examiner Steenbakker, J
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1503 03/92 (F04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 01 20 1251

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

31-05-2001

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5496573 A	05-03-1996	AT 108082 T	15-07-1994
		AU 632149 B	17-12-1992
		AU 5994690 A	07-02-1991
		CA 2022246 A,C	02-02-1991
		DE 69010420 D	11-08-1994
		DE 69010420 T	03-11-1994
		DE 411546 T	19-12-1991
		EP 0411546 A	06-02-1991
		HK 32795 A	17-03-1995
		JP 2930365 B	03-08-1999
		JP 3229606 A	11-10-1991
		KR 134768 B	20-04-1998
		SG 170094 G	28-04-1995
DD 268151 A	24-05-1989	NONE	
US 3625703 A	07-12-1971	NONE	
US 4859348 A	22-08-1989	NONE	
US 5906743 A	25-05-1999	AU 5679596 A	11-12-1996
		CA 2219827 A	28-11-1996
		WO 9637291 A	28-11-1996

EPO FORM P0489

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

PUB-NO: EP001142483A1
DOCUMENT-IDENTIFIER: EP 1142483 A1
TITLE: Coffee package
PUBN-DATE: October 10, 2001

INVENTOR-INFORMATION:

NAME	COUNTRY
GROEN, HENDRIK JOHANNES	NL

ASSIGNEE-INFORMATION:

NAME	COUNTRY
LEE DE NV SARA	NL

APPL-NO: EP01201251

APPL-DATE: April 5, 2001

PRIORITY-DATA: NL01014852A (April 6, 2000)

INT-CL (IPC): A23F005/14

EUR-CL (EPC): A23F005/26 , A23F005/14 , A23F005/18

ABSTRACT:

CHG DATE=20011102 STATUS=O> The present invention relates to a package containing roasted, ground coffee and at least one absorbent for coffee oil, which absorbent is not water-soluble, and to a method for preparing a portion of liquid coffee with a reduced content of coffee oil, comprising dosing a dose of ground, roasted coffee to a brewing system in which no filtering paper or filtering cloth is used, preparing the coffee by extraction with hot water, the improvement consisting in the dose of coffee containing an amount of absorbent for coffee oil which is effective for reducing the content of coffee oil in the prepared coffee.